WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Terms	Documents
L2 same exothermic	27

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L3

Refine Search | Recall Text | Clear

Search History

DATE: Wednesday, December 11, 2002 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB; PLUR=YES; OP=OR			
L3	L2 same exothermic	27	L3
L2	casting same feeder	555	L2
L1	feeder adj mass	24	L1

END OF SEARCH HISTORY

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Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Terms	Documents
L1 and (aluminum adj oxide or alumina) same microns	6

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L2

Refine Search

Recall Text | Clear

Search History

DATE: Wednesday, December 11, 2002 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB; PLUR=YES; OP=OR			
L2	L1 and (aluminum adj oxide or alumina) same microns	6	L2
L1	(149/37)!.CCLS. or 149/43.ccls. or 149/44.ccls.	1108	L1

END OF SEARCH HISTORY

L2: Entry 4 of 6 File: USPT Nov 14, 1989

DOCUMENT-IDENTIFIER: US 4880483 A
TITLE: Pyrophoric composition

Detailed Description Text (144):
The pyrophoric action of a loaded sponge or foam can be stretched out in time by having the pyrophoric surfaces partially blocked against access to air. The above-mentioned binders have such an effect, as does the use of colloidal inert particles as described in U.S. Pat. No. 4,435,481. Thus a colloidal alumina or colloidal silica dispersion can be added to the slurry of pyrophorically activated metal particles so that after the particles are subsequently loaded and dried, the colloidal material dries in the surface pores of the pyrophoric particles and partially blocks those pores. The colloidal particles should be smaller than 0.1 micron in size, and are available commercially in predispersed condition. Only about 0.5% to 5% of the colloidal particles based on the weight of the pyrophoric particles, effects a measurable stretching out of the pyrophoric action, and such delay is further extended by the presence of a small amount of resin or other binder as disclosed in Ser. No. 281,405.

Current US Cross Reference Classification (5):
149/37

Current US Cross Reference Classification (6):
149/44

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L5: Entry 1 of 1 File: USPT Jul 14, 1998

DOCUMENT-IDENTIFIER: US 5780370 A
TITLE: Selective infrared line emitters

Detailed Description Text (28):
Paper processing. A combination of ceramic fiber, activated carbon fiber, and cellulose was used to make the preform as illustrated by the following specific preparation. Into one blender was placed 2.5 cups of water and the pH was adjusted to 4 using nitric acid. Cellulose (2.5 g) was added and the mixture blended on the highest speed for 10-20 minutes. Into a second blender was poured 1.5 cups of water and the pH was adjusted to 4 with nitric acid. Activated carbon fiber (3.5 g of 10 nm diameter fibers, 2000 m.sup.2 /g was placed in the second blender and stirred on low speed for 10 minutes. The slurry from each blender was combined while alumina fibers were added (5 g of 12 micron diameter) and stirred for an additional 15 minutes on the lowest speed. A wire screen then was placed in a casting mold which was filled with 3 gallons of water with the pH adjusted to 4. The slurry was poured into the water, agitated for 5 minutes, and the water thereafter drained from the sheet mold. The paper then was dried at 100.degree. C. for 30 minutes. The purpose of controlling the pH in the distilled water is because the isoelectric point for alumina is about 8 and a pH of 4 can give a higher zeta potential on the alumina fiber surface, which leads to fiber separation. Therefore, uniformly distributed fibrous paper can be manufactured in the pH is controlled.

WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Terms	Documents
L4 same (metallurgical or steel)	13

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L6

Refine Search | Recall Text | Clear

Search History

DATE: Wednesday, December 11, 2002 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB; PLUR=YES; OP=OR			
L6	L4 same (metallurgical or steel)	13	L6
L5	L4 same activated	1	L5
L4	L3 same (thermite or hot adj top or casting)	233	L4
L3	(aluminum adj oxide or alumina) same microns	11641	L3
L2	L1 and (aluminum adj oxide or alumina) same microns	6	L2
L1	(149/37)!.CCLS. or 149/43.ccls. or 149/44.ccls.	1108	L1

END OF SEARCH HISTORY

L6: Entry 4 of 13 File: USPT May 27, 1997

DOCUMENT-IDENTIFIER: US 5632326 A
TITLE: Mould and a method for the casting of metals and refractory compositions for use therein

Brief Summary Text (20):
It is known to use fly ash floaters or cenospheres in compositions which are used for feeding but these compositions have temperature limitations and are unsuitable for use in the casting of steel. Fly ash floaters or cenospheres are hollow microspheres having a diameter of the order of 20 to 200 microns and usually contain by weight 55 to 61% silica, 26 to 30% alumina, 4 to 10% calcium oxide, 1 to 2% magnesium oxide and 0.5 to 4% sodium oxide/potassium oxide.

L6: Entry 5 of 13 File: USPT Dec 6, 1994

DOCUMENT-IDENTIFIER: US 5370370 A
TITLE: Liner for submerged entry nozzle

Brief Summary Text (18):
One aspect of the invention is directed to a refractory article, such as a submerged entry nozzle for use in the continuous casting of aluminum-killed steel, having an anti-buildup liner formed therein. The body of the nozzle or like shape is made of a fired, carbon-bonded oxide refractory material, such as a carbon-bonded alumina-graphite. The teeming orifice or metal contacting bore of the nozzle is defined by an oxidized, carbon free, annular zone of about 1-3 mm in depth. The oxidized zone, when formed, is porous and is thereafter impregnated with a carbon free, refractory material selected from the group consisting of alumina, silica, zirconia and SiAlON. The preferred refractory material for impregnation is alumina. The pore size of the carbon free, oxidized zone prior to impregnation is controlled within the range of about 10 to 70 microns and preferably about 35-45 microns and, more preferably, about 40 microns. The completed nozzle having the zone and carbon free impregnated refractory liner may be low temperature cured after impregnation or it may be used without such a cure if the nozzle is subjected to a conventional preheat treatment prior to service. During high temperature service, the impregnated refractory material undergoes sintering to further densify the liner region so as to prevent liquid steel infiltration and to prevent reverse carbon monoxide emissions from the carbon-bonded refractory body into the steel. As will be discussed in greater detail hereinafter, it is believed that the reaction between the dissolved aluminum in the steel and carbon monoxide emitted from the carbon-bonded refractory is a principle reaction mechanism in the formation and buildup of harmful alumina deposits in the nozzle bore.

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L6: Entry 9 of 13 File: USPT Nov 28, 1978

DOCUMENT-IDENTIFIER: US 4127407 A
TITLE: Method of making a casting powder

Detailed Description Text (2):
16% by weight aluminum oxide, 16% by weight lime, 24.9% by weight silicon dioxide, 20.9% by weight sodium carbonate and 22.2% by weight potassium carbonate are heated together to form a molten mass which is then cooled. The fused mass is finely ground and grated to a particle size of 15 microns. The particles are suspended in water with agitation for a period of 30 minutes. Thereafter, a slurry of the particles and water is sprayed from an atomizing nozzle into a chamber evacuated to a pressure of 15 torr to flash evaporated water. The particles are examined and found to be expanded to a particle size of about 65 microns and to have a ball configuration. After the particles are dried, they are applied to a steel mill in comparative tests with particles of 15 micron particle size used as the starting material. The 15 micron particles generated substantial dust and were practically ineffective because of the difficulty in distributing the powder onto the melt. The 65 micron particles, which were hollow, flowed readily onto the surface of the melt without any noticeable dust formation and served as an effective casting powder layer. The process was repeated adding 10% by weight of carbon black of a particle size below 5 microns to 90% by weight of the casting powder composition made as described above. Similar results were obtained. Alcohols, namely methyl alcohol, a mixture of 50% methyl alcohol and 50% methyl ethyl ketone, a mixture of petroleum hydrocarbons, and Freon-type fluoro-chlorohydrocarbons were also found to be effective as expanding agents. When the hydrophobic organic expanding agents were used, it was found to be advantageous to include water which appeared to be useful in the agitated suspension to promote penetration of the particles by the solvent.

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Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

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